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SOURCE Newspapers as indicated.

SOME DATA ON USSR SCIENTIFIC
 EXPEDITIONS, AS OF AUGUST 1951

[Numbers in parentheses refer to appended sources.]

USSR

New scientific works which represent the results of scientific work in various fields have been published by the publishing house of the Academy of Sciences USSR.

Among the new publications are Trudy kompleksnoy nauchnoy ekspeditsii po voprosam polezashchitnogo lesorazvedeniya (Works of the Complex Scientific Expedition on Problems of Field Shelter Belt Planting). The volume contains the basic results of the complex expedition of the Academy of Sciences USSR led by Academician V. N. Sukachev, which was organized in connection with meeting the Stalin plan for transformation of nature; it presents data on the climate, soil, vegetation, geology, and hydrogeology of the areas where the state shelter belts are to be established.

Another volume presents data on the development of northern Russia. This data was collected by A. M. Astakhovaya and is published under the title Byliny severa (Epics of the North). (1)

The Department of Biological Sciences of the Academy of Sciences USSR, in association with the biological institutes of the republic academies of sciences, has this year been working on a number of important experiments. About 50 different expeditions organized by the department are now working at the sites of the great construction projects, in Moldavia, Transcarpathia, Azerbaydzhan, and the Crimea. Taking active part in the expeditions are soil scientists, botanists, and zoologists of these republics.

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Kazakh, Uzbek, and Turkmen scientists are aiding in the development of scientific bases for agricultural utilization of the vast lands beyond the Volga, in the Caspian Lowland, and in the Main Turkmen Canal area. The Academy of Sciences Azerbaydzhan SSR is assisting in the development of methods for increasing the harvest on irrigated lands.

For some time, the Department of Biological Sciences of the Academy of Sciences USSR has been maintaining contact with the institutes of the Lithuanian, Latvian, and Estonian academies of sciences. Preparations are being made for a joint meeting of the biologists of these four academies. At this meeting they will discuss the results of experiments designed to promote the further development of agriculture in the Baltic republics.(2)

The problems of improvement and economic utilization of salinized soils in irrigation regions occupy an important place in the research work of soil scientists, chemists, and hydrologists. The chemical laboratory of the Moscow Department of the All-Union Chemical Society imeni D. I. Mendeleev has built models of apparatus which permits the rapid determination of salt content in soil. Construction and operation of the apparatus are very simple. It is powered by a small generator.

Experiments carried out with the models by the Kura-Araks Expedition in Azerbaydzhan SSR have shown that the apparatus permits determination of the salt content in soil in 3-5 minutes. Former methods took about a week. Several sets of the apparatus have been sent to Gidroyekt (All-Union Administration for Planning, Survey, and Study of Hydroelectric Project Construction) and to the several ministries working on the great construction projects.

The Laboratory for Hydrogeological Problems imeni F. P. Savarenskiy has compiled a map and description of the Caspian steppes, which will be widely used by Gidroyekt and other organizations.(3)

Karelo-Finnish SSR

The archaeological expedition which worked in the northern part of the Karelo-Finnish SSR and in the basins of the Narova, Plyussa, and Pyata rivers has returned to Leningrad. Interesting discoveries were made and are now being studied in the laboratory.(4)

Belorussian SSR

The Academy of Sciences Belorussian SSR has organized 20 scientific expeditions.

A large group of scientists is continuing the study of the Poles'ye Lowland.

Members of the Institute of Geology and Belorussian Geological Administration are making hydrological and geophysical studies. A group of scientists is studying soils, forests, and swamps and is developing local high-yielding varieties of agricultural plants.(5)

RSFSR and Azerbaydzhan SSR

Soviet scientists are studying the peculiarities of Lake Baykal. The water of this lake is rich in oxygen even at a depth of 1,600 meters, assuring the presence of life even at very great depths. This year, a large group of scientists is working aboard a specially equipped launch, the D. Lebovskiy.(6)

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The expedition of the All-Union Institute of Plant Culture sent to Dagestan ASSR and Azerbaydzhan SSR has returned to Leningrad. M. M. Yakubtsiner, head of the Wheat Institute Laboratory, discussed the expedition as follows in an interview with a TASS correspondent.

The expedition explored the little-known, but agriculturally and botanically very interesting mountain areas of Dagestan and Azerbaydzhan. Specifically, members of the expedition visited the high-mountain kolkhozes in Buynakskiy and Kel'badzharskiy rayons and in Nagorno-Karabakh Autonomous Oblast.

New forms of large-headed and large-kernel rye being developed there can perhaps also be grown in the northern parts of the country.

On the irrigated fields of the institute's Derbent Experimental Point, members of the expedition made a detailed study of the remarkable collection of wheats being grown there. Altogether, about 10,000 specimens were studied. The data obtained will be used in connection with the establishment of new irrigation areas.(7)

RSFSR, Kazakh SSR, and Turkmen SSR

Twenty detachments of soil scientists of the academies of sciences USSR and Kazakh SSR are making soil studies in the Caspian Lowland. They are working under the supervision of Professor Ye. N. Ivanov.

Detachments are now at work in Gur'yev, West Kazakhstan, Stalingrad, and Astrakhan' oblasts. It is their task to compile a soil map of the Caspian Lowland, a map which will depict an area of almost 20 million hectares. In addition, the scientists are making tests of the physical properties of the soils and are determining the depths at which ground water is found. Each detachment has its field laboratory, in which analyses of ground waters are made.

The task of the soil scientists also includes selecting areas which in the future will be used for agricultural crops, meadows, and pastures.

The soil scientists will conclude their work in October. Their soil map will then be handed over to the organizations planning the Stalingrad hydroelectric project.(8)

Academician K. Satpayev, President of the Academy of Sciences Kazakh SSR, reports that the 1951 plans of the academy included prospecting for deposits of building materials in the vicinities of the great construction projects.

Detachments searching for building materials found a number of sandstone, sand, limestone, and gypsum deposits in the Stalingrad canal area and established their suitability as materials for construction of the canal. Supplies of sand and gravel suitable for concrete work and adequate for the construction of the Takhia-Tash hydroelectric installation of the Main Turkmen Canal project were found on Tokmak-Aty Island and in the delta of the Amu-Dar'ya River.(9)

Several faculties of Moscow State University are sending scientific expeditions to the areas of the great construction projects this year. The Faculty of Biology and Soil Science has organized a complex Stalingrad expedition, in which professors, instructors, graduate students, and students of 13 chairs of the faculty will take part. Scientific supervision of the expedition will be exercised by Professors N. A. Kachinskiy, L. I. Kursanov, L. V. Kudryashev, and others. The main task of this expedition will be to determine the biological properties of soils, preparatory to afforesting the steppes in Stalingrad Oblast.

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A Volga-Caspian expedition has been organized under the leadership of Professors N. A. Kachinskiy, N. P. Semezov, and Docent S. A. Vladychinskiy. It will study the hydrophysical qualities of the soils and compile a soil map of the Volga-Akhtuba bottom land.

An expedition of the Geographical Faculty, led by Yu. Z. Brotskiy, Candidate of Geographical Sciences, is working in the western part of the Caspian Lowland, Sarpinsk Lowland, Black Lands, and Nogaysk Steppe. It will work out plans for irrigating these areas.

Another expedition of the Geographical Faculty has been sent to the Volga-Akhtuba bottom land area.

The Geological Faculty has an expedition collecting materials in the Karakum Desert. It is led by Docents Ye. M. Sergeyev and P. I. Fadeyev.

An expedition under Docent A. F. Yukashev is working in the area where the Stalingrad GES is being built. Two other expeditions are studying landslides and the geological history of the Volga River.(10)

The first detachments of the complex scientific expedition sent by Moscow University imeni M. V. Lomonosov to the state shelter belt running from Kamyshin to Stalingrad have returned to Moscow. The members of the expedition -- biologists, soil scientists, hydrogeologists, and other scientific specialists -- studied the relief, soil, flora, and fauna and prepared collated maps and reports of the area under investigation. Special attention was paid to the development of a productive fishing industry in the ponds and reservoirs to be created there.

Moscow University has sent out more than 50 expeditions in 1951. Geologists are completing the work of devising methods for stabilizing the sands in the Main Turkmen Canal zone. Geographers of the university have designed plans for complex water management measures to be applied in the western part of the Caspian Lowland. A number of projects connected with irrigation of the region beyond the Volga, the Caspian area, and the southern Ukraine have been completed.

The first group of scientists of the Moscow Institute of Water Economy Engineering imeni V. R. Vilyams has returned. The group had been to the sites of the South Ukrainian and North Crimean canals, assisting in formulating irrigation and water flow control plans.

An expedition of the Moscow Institute of Land Survey, consisting of improvement workers, agronomists, and economists, took part in carrying out surveys and introducing the grass field rotation system on the kolkhozes of southern Moscow Oblast, Kursk Oblast, and Moldavia.

Also back in Moscow is an expedition of historians, archaeologists, and anthropologists. It made a study of the steppe environs of Kerch and the historical monuments of Belorussia, Smolensk Oblast, Kirgizia, and Kazakhstan.(11)

Uzbek, Tadzhik, and Kirgiz SSR

The Tadzhik ethnographical detachment of the Pamir-Fergana Complex Expedition has returned to Moscow.

The scientists made studies in Leninabad, Osh, and Fergana oblasts. They collected a large amount of material testifying to the successes achieved in developing cotton raising, horticulture, and livestock raising, as well as in

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raising the cultural level of the kolkhoz peasant in these areas. The materials collected also show how the transition to the new irrigation system is being carried out by the kolkhozes.

A special assignment of the expedition is to make a study of the early people who inhabited the Fergana Valley. This study will serve as a base for compiling a historical-ethnographical map of all these areas.

Besides the Tadzhik detachment, the Pamir-Fergana Expedition includes two other ethnographical and three archaeological detachments. The institutes of ethnography and material culture of the Academies of Sciences USSR, Uzbek SSR, and Tadzhik SSR, and of the Kirgiz Affiliate of the Academy of Sciences USSR have representatives in the expedition. The basic task of the expedition is to make an archaeological-ethnographical study of the culture and living conditions of the Central Asiatic people from earliest times to the present.(12)

Turkmen SSR

The All-Union Scientific Research Agrophysical Institute of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin is carrying on interesting experiments in stabilizing the shifting sands of the Kara-Kum Desert. It has developed a method of using for this purpose an emulsion obtained from paper production waste products. Under the influence of this emulsion, a firm top layer is formed and the sands do not blow. At the same time, the layer is pervious to both air and water so that plants may grow on it. About 6,000 hectares in the vicinity of the Main Turkmen Canal project will be treated with emulsion this year as an experiment on a larger scale.(13)

There are more than 250 participants in the Uzboy Expedition of the All-Union Aero-geological Trust; the expedition is working on the route of the future Main Turkmen Canal. In 1951, it must take aero-geological photographs of an area 30,000 square kilometers in size, make studies of the Sarykamysh Lowland, and prospect for building materials needed for constructing the hydroelectric installations on the Uzboy and the Takhia-Tash dam.

The expedition has drilled many linear meters of test holes. In the Takhia-Tash area, gravel, limestone, sandstone, quartz, marble, granite, and other building materials have been found. The famous drilling expert A. P. Gusev is at work in the Sarykamysh Lowland. His brigade is sinking test holes to study the structure of that locality.(14)

Tadzhik SSR

The Pamir Seismographical Station is located near Khorog in picturesque mountain country. It was organized late last year. Since January, it has been making a systematic record of earth shocks with the aid of seismographs designed by the Soviet scientist Kirnos.

The task of the station is the study of local earthquakes in the high Pamirs. Seismologists carefully evaluate the data of the instruments, determine the exact time of earthquakes, the distance from epicenter, and the agitation of the earth in microns.

Lyudmila Anatol'yevna Gudzik is head of the station. She completed her studies at the Physics and Mathematics Faculty of Azerbaydzhani State University in 1950. The station was built under her supervision.

This year a new building will be erected. It will be equipped with the latest domestic equipment for recording earth shocks.(15)

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